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ABSTRACT

This paper examines the recent research on the change process, with emphasis on implementation of educational innovations, to see what messages might be implied for teachers and their teaching skills. How various aspects of the change process research lead to the identification and description of these kinds of skills for teachers are described. The Concerns-Based Adoption Model (CBAM) is drawn upon with particular consideration given to three diagnostic dimensions--Stages of Concern, Levels of Use, and Innovation Configurations. Research indicates that the development of teaching skills takes time, and that the level of skill development that should be expected of teachers should vary depending on where they are along the professional continuum. A two-page list of references concludes the document. (CB)

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Deriving Teaching Skill from Studies of the Implementation of Innovations in Education

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Paper presented at the annual meeting of the
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DERIVING TEACHING SKILL FROM STUDIES OF THE IMPLEMENTATION OF INNOVATIONS IN EDUCATION[1]

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This paper has been developed as a part of a symposium involving a number of researchers who are examining the implications of different bodies of research. More specifically the charge is to derive teaching skills from different areas of research, such as classroom teaching (Brophy, 1986; Gage 1986), research on thinking (Morine-Dershimer, 1986), and training models (Joyce, 1986; Showers, 1986). The specific thrust of this paper is to examine the recent research on the change process and specifically implementation of educational innovations to see what messages might be intuited for teachers and their teaching skills.

In developing this paper, I have had to think about change process research in a different way. As a first step it was necessary to think about the goal(s) that one would have for drawing implications of implementation research for teaching skills. This was more difficult than it might seem since the emphasis of implementation research has more naturally tended to focus upon the dynamics of the change process, characteristics of innovations and the varying roles of change facilitators. Another reason for writing this paper is that it provided an other opportunity to respond to the criticisms of Zeichner (1983) and others who question the appropriateness of concerns-based or personalized approaches to teacher education. This is possible since the goal that I have for teachers

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[1]Paper presented at the annual meeting of the American Educational Research Association, San Francisco, California, April 1986.

as a result of their developing skills based upon our findings from implementation research relate directly to the goals for teachers that Zeichner and others espouse. The goals of change process activities, at least from the concerns-based perspective, are to develop teachers who are reflective about their teaching practice, collegial in their work with fellow teachers and able to generate ideas for improving practice. An additional goal from implementation research is that teachers will become competent and confident in using educational innovations. Another way to express these goals is for teachers to become self analytic as they are experiencing the change process and to develop skill in assisting others who are involved in change. Ideally they will develop increasing sophistication and understanding of the change process and be more effective in facilitating their own development and that of others.

Having stated this set of admirable goals, my responsibility now is to articulate how various aspects of change process research lead to identification and description of these kinds of skills for teachers. Also I will talk further about some of the conditions under which our research indicates that it is possible for teachers to attain these aims.

The conceptual framework that will be drawn upon to describe and analyze this process will be selected dimensions of the Concerns-Based Adoption Model (CBAM). In particular, the three diagnostic dimensions, Stages of Concern, Levels of Use and Innovation Configurations provide the conceptual framework and rubrics for identifying and talking about teacher skills. Therefore, a brief description of each of these dimensions is presented first. Those readers who are already familiar with all three of these diagnostic dimensions may wish to move directly to the following sections of this paper.

It is important to point out that the definition of teaching skills to be used here is robust. Teachers and teaching skills, I believe, entail more than the act of teaching a particular set of students a particular subject matter at a particular time. The role and functions of teachers include pre-active and post-active phases, as well as the interactive phase. Teachers also must have skills in curriculum design, teacher education and a number of other areas of knowledge and expertise in addition to these directly associated with the act of teaching. I suspect that this is one of the reasons for the continual disappointment in the accomplishments of our schools. Sufficient consideration and support are rarely provided to teachers and other school personnel to help them develop and use skills in these other areas. The development of these other skills are not always quick or easy, yet teachers rarely experience college courses or workshops that address the kinds of skill development that are described here.

Overview of Three Diagnostic Dimensions

Three key questions are asked in considering the teacher's position in the change process. These are:

1. How do they feel about it?
2. Are they using it?
3. What is it?

As a result of the research that has been done at the R&D Center for Teacher Education over a number of years and with our colleagues in the United States, Belgium, Australia, Canada and elsewhere, it has been possible to closely document and describe answers to these three very important questions.

One of the keys in this approach has been to view change as being a process, not an event. When we first proposed this premise in the early

1970's it was seen by us and many others as a major "aha," since in all too many cases the implementation of educational innovations in school settings had been viewed as an event. The innovation materials were delivered to the school and it was assumed that instantaneously teachers had skill and sophistication in using the new way. As our research and that of others (for example, see Fullan and Pomfret,1977; Fullan, 1982) has documented, the implementation of innovations is not automatically accomplished or necessarily a short phase in the overall change process.

Tools have been developed for describing the three diagnostic dimensions of the Concerns-Based Adoption Model. "How do they feel about it?", is addressed through the diagnostic dimension of Stages of Concern. "Are they using it?", is addressed through the diagnostic dimension of Levels of Use. "What is it?", is addressed through the diagnostic dimension of Innovation Configurations.

Stages of Concern About the Innovation (SoC)

Through the earlier research of Fuller (1969) and a series of studies in the 1970's (Hall & Rutherford, 1976; George, 1978); van den Berg & Vandenberghe,1981; Marsh & Jordan-Marsh,1985; Matthews & Suda, 1982), it is now a clearly documented phenomenon that as teachers and others are involved in change their "concerns" go through a series of varying emphases. The concept of concerns which represents the various perceptions, motivations, points of interest and preoccupations of persons as they are involved change, has become very useful as a way to think about the perceptual experiences of teachers and others as they are introduced to and gradually develop skill in using innovations. One of the direct implications of this work has been to think more carefully about the designing and sequencing of staff development experiences (Hall & Loucks, 1978). The work has also had

implications for the design of teacher education (Hall, 1985). The implications of Stages of Concern for skill development in teachers will be addressed most directly for the first time in this paper.

First, the different Stages of Concern need to be highlighted. In the research, seven different Stages of Concern about innovations have been identified (see Figure 1). A set of procedures have been developed for assessing Stages of Concern (Newlove & Hall, 1976; Hall, George & Rutherford, 1977) and it is clear that there is a tendency towards a progression from earlier self to task and, ultimately impact concerns about educational innovations. This concept has been described in extensive detail in other places and its implications for school-based leadership have been examined as well (Hall & Hord, in press). The major objective here is to point out that there is an identifiable pattern to the concerns that teachers have when they are involved in change and that this pattern moves from an initial more self oriented focus to a task focus and, ultimately to more of an impact focus. We will come back to this pattern after briefly introducing the other diagnostic dimensions.

Levels of Use of the Innovation (LoU)

The second question, "Are they using it?", has also turned out to be instructive for understanding, evaluating and facilitating change. The traditional view of use has been that it is a dichotomous variable. Either teachers are or are not using an innovation. In the field work that was done as the basis for the original development of the Concerns-Based Adoption Model (Hall, Wallace, and Dossett, 1973), it became clear that use was not a dichotomous phenomena, but rather a continuum with gradual behavioral changes as one moves from absolute nonuse to a state of comfortable and routine use and on to types of refinement and in time

Figure 1

STAGES OF CONCERN ABOUT THE INNOVATION*

6 REFOCUSING: The focus is on exploration of more universal benefits from the innovation, including the possibility of major changes or replacement with a more powerful alternative. Individual has definite ideas about alternatives to the proposed or existing form of the innovation.

5 COLLABORATION: The focus is on coordination and cooperation with others regarding use of the innovation.

4 CONSEQUENCE: Attention focuses on impact of the innovation on students in his/her immediate sphere of influence. The focus is on relevance of the innovation for students, evaluation of student outcomes, including performance and competencies, and changes needed to increase student outcomes.

3 MANAGEMENT: Attention is focused on the processes and tasks of using the innovation and the best use of information and resources. Issues related to efficiency, organizing, managing, scheduling, and time demands are utmost.

2 PERSONAL: Individual is uncertain about the demands of the innovation, his/her inadequacy to meet those demands, and his/her role with the innovation. This includes analysis of his/her role in relation to the reward structure of the organization, decision making and consideration of potential conflicts with existing structures or personal commitment. Financial or status implications of the program for self and colleagues may also be reflected.

1 INFORMATIONAL: A general awareness of the innovation and interest in learning more detail about it is indicated. The person seems to be unworried about himself/herself in relation to the innovation. She/he is interested in substantive aspects of the innovation in a selfless manner such as general characteristics, effects, and requirements for use.

0 AWARENESS: Little concern about or involvement with the innovation is indicated.

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*Original concept from Hall, G. E., Wallace, R. C., Jr., & Dossett, W. A. A developmental conceptualization of the adoption process within educational institutions. Austin: Research and Development Center for Teacher Education, The University of Texas, 1973.

replacement of the innovation with another. In other words there are different "levels" of use. In our research three different nonuse levels and five different use levels were identified (Hall, Loucks, Rutherford & Newlove, 1975). These Levels of Use are summarized in Figure 2.

The main emphasis in the Levels of Use dimension is on what people are doing with an innovation. At Level of Use 0, Nonuse, they are not doing anything. At a Level of Use III, Mechanical Use, there is a disjointed and relatively inefficient use of the innovation, while teachers at Level of Use IVA are using the innovation in routine ways. A focused interview procedure has been developed for assessing Levels of Use (Loucks, Newlove & Hall, 1976) and extensive studies have been done that document this phenomenon and its implications for evaluation and change facilitation (van den Berg & Vandenberghe, 1981; Hall & Loucks, 1977).

Innovation Configurations

The third question in the diagnostic set is "What is it?" This dimension emerged as our initial Levels of Use verification studies were launched. It does not take a great deal of time in visiting various classrooms where the innovation is being used to learn that different teachers are "using" very different operational forms of the innovation. In our work the concept of Innovation Configurations (Hall & Loucks, 1981) was developed as a way to think about and describe innovation adaptations. A procedure for determining the various operational components of an innovation and variations on those components has been worked out (Heck, Stiegelbauer, Hall & Loucks, 1981).

With this an innovation can be analyzed in terms of its different operational configurations. Implications include the fact that different configurations may be associated with different outcomes and that different

Figure 2

Levels of Use of the Innovation

VI RENEWAL: State in which the user reevaluates the quality of use of the innovation, seeks major modifications of or alternatives to present innovation to achieve increased impact on clients, examines new developments in the field, and explores new goals for self and the system.

V INTEGRATION: State in which the user is combining own efforts to use the innovation with related activities of colleagues to achieve a collective impact on clients within their common sphere of influence.

IVB REFINEMENT: State in which the user varies the use of the innovation to increase the impact on clients within immediate sphere of influence. Variations are based on knowledge of both short- and long-term consequences for clients.

IVA ROUTINE: State in which use of the innovation is stabilized. Few if any changes are being made in ongoing use. Little preparation or thought is being given to improving innovation use or its consequences.

III MECHANICAL USE: State in which the user focuses most effort on the short-term, day-to-day use of the innovation with little time for reflection. Changes in use are made more to meet user needs. The user is primarily engaged in a stepwise attempt to master the tasks required to use the innovation, often resulting in disjointed and superifical use.

II PREPARATION: State in which the user is preparing for first use of the innovation.

I ORIENTATION: State in which the user has recently acquired or is acquiring information about the innovation and/or has recently explored or is exploring its value orientation and its demands upon user and user system.

0 NONUSE: State in which the user has little or no knowledge of the innovation, no involvement with the innovation, and is doing nothing toward becoming involved.

Excerpted from: The LoU Chart: Operational Definitions of Levels of Use of the Innovation. Austin: Research and Development Center for Teacher Education, The University of Texas, 1975.

forms of staff development may be appropriate depending upon the present practices that teachers are using.

With this dimension as well implications in terms of skill development for teachers have not been thought out in previous work and will be explored for the first time in this paper.

Suggestions of Skills for Teachers

Self Diagnosis. The first way that these studies have implications for teachers and teaching skills must be related to the use of the concepts of Stages of Concern, Levels of Use and Innovation Configurations as rubrics for monitoring and describing the change process as it is experienced. If the goal is to have self analytic, collegial and idea generating teachers then they need language and frameworks for monitoring and assessing their own experiences and practice. The Stages of Concern, Levels of Use and Innovation Configuration dimensions provide such a set of tools. Teachers who understand and are skilled in using these tools will be able to do self diagnoses as they are involved in the change process. They will be able to use these skills in identifying and interpreting the experiences of fellow teachers. In addition, the dimensions provide a common language and set of concepts that can be used to communicate the experiences, perceptions and skill level that each is developing. There are a number of workshops, manuals and reports that can be used to introduce and help teachers develop these skills. They have been used this way previously and have been found to be instructive and useful.

Self Diagnosis as an Innovation. However, the phenomena are not as simple and use is not as straight- forward as might be inferred from the description so far. The problem comes when the phenomenon is applied back to the teacher as learner of the phenomenon. If the diagnostic dimensions

of SoC, LoU and IC are considered to be "innovations" then teachers learning to use these skills will experience the same phenomenon about acquiring these skills as they would for any other innovation. For example, teachers when first introduced to these diagnostic dimensions will have more intense self concerns about them, may be at one or the other of the three nonuse levels and may be very confused in their understandings and interpretations of the innovation, which means different configuration of use. Depending on their Stages of Concern, Levels of Use and Innovation Configurations, the self analytic, collegial and idea generating skills that teachers have and will be able to use will be different in terms of their quality and quantity.

For example, teachers with more intense self concerns will be less able to be self analytic about their feelings and perceptions than will teachers who have more intense task or impact concerns. However, understanding the concerns phenomenon and being able to reflect upon their feelings should mean that their personal concerns will not become as relatively intense as they would have had without this framework to compare their feelings and perceptions to.

This is an area where treatment studies could be instructive. Do teachers who are introduced to innovations and who understand the concerns phenomenon reflect lower Stage 2, Personal concerns than similar teachers who do not understand concerns phenomenon? If indeed concerns knowledgeable teachers have less Personal concerns then this will be testimony in support of the self analytic capacity of teachers that we are all seeking.

The Perspectives of "Real" Teachers. The same dynamic and phenomenon apply to teachers with task concerns. Teachers with task concerns, who will typically be at a Mechanical Level of Use, will not have a great deal of

time or interest in being collegial or have very much psychological energy to spend on creating student and outcome oriented adaptations in the innovation. These kinds of skills will be more frequently observed in and more readily incorporated by teachers who have their self and task concerns resolved and are at least at a Routine Level of Use, (LoU IVA). The impact concerned teachers are the ones who will be highly concerned about their students, more reflective about what they are doing (Stage 4 Consequence concerns), have more intense concerns about working and sharing ideas with other teachers (Stage 5, Collaboration concerns) and perhaps have ideas about how the innovation can be further refined, adapted, added to or replaced to make it even more effective (Stage 6, Refocusing concerns). Ideally, teacher behaviors in terms of Levels of Use would be parallel to the Stages of Concern.

The teacher with impact concerns will also be reflective about the configuration of the innovation that is being implemented. They will be the ones attempting to move towards more highly elaborate and idealized operational forms of the innovation as they aspire to higher levels of achievement.

Teachers as Change Facilitators. Another important set of teaching skills for teachers is for change facilitation. In our earlier studies of school principals we discovered the role of the Second Change Facilitator or "consigliere" (Hord, Hall, & Stiegelbauer, 1983). In every study school there was a second, and in some cases a third, change facilitator who was active in intervening on teachers to facilitate their use of innovations. This Second Change Facilitator worked with the principal and together they composed a Change Facilitating Team (Hall and Hord, 1986). In many schools these Second CF's were teachers who were given additional responsibility and

roles. This role requires a totally different set of "teaching" skills that deal with change and facilitating adults/peers in the use of new ways. This Second Change Facilitator role needs to be made legitimate and we need to think further about the kinds f skills that teachers use when they are effective in it. The skills include innovation expertise, coaching, organization and monitoring domains. There also must be skill in working with other change facilitators and as a Change Facilitator Team member.

Summary Discussion

In this paper a more robust definition of teaching skills has been used. The nominated skills derive from change process research, especially the three diagnostic dimensions of the Concerns Based Adoption Model. It seems conceivable that these three diagnostic dimensions provide strategies for teachers to think about what they are doing and to think about their role and relationship with fellow teachers. The attainment of these more "advanced" levels of sophistication, competence and confidence is not easy. Also it is not typically going to be accomplished by teachers working alone. In our studies we have found repeatedly that the school principal and other leaders within the school make a significant difference in whether or not teachers ever get their self and task concerns resolved and move on to higher Levels of Use with more refined configurations of innovations.

It is also important to recognize that developing these kinds of self analytic skills is a process that takes time. Mastery will not be accomplished in a one or two day workshop. Further, it is not something that we believe is realistic to expect of beginning teachers. Thus, another implication of our research would be to suggest that the level of skill development that should be expected of teachers should vary depending upon

where they are along the professional continuum from teacher in initial training, to inductee, to master teacher.

One last point that comes through from the research that we have done is that it is important for teachers and researchers to understand that it is very difficult, if not impossible, for teachers to do it from the bottom up. The development and maintenance of impact concerns by individual teachers takes administration support and organizational conditions that are conducive. In a context of instability and lack of support the most likely concerns to be observed will be self and task concerns. In those situations teachers having skill and understanding of how to interpret their perceptions and their degree of implementation will be better off, but by themselves it is near impossible to establish sufficient stability and an environment that will encourage the resolution of their self and task concerns and facilitate the arousal of impact concerns.

I will conclude with a re-emphasis of this point. In this paper I have been addressing the results of implementation research from the teachers' point of view and the skills that teachers ideally can develop. It must not be forgotten that teachers are part of an organization that includes fellow teachers and other actors who make a significant difference in the potential and the accomplishments that each and all can achieve.

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